

defect in the right eye (Figure 1c, left). C-reactive protein was markedly elevated (22.43 mg/l). The patient was diagnosed with AION in Behcet's disease based on ocular involvement, oral aphthae, and skin lesion. He was prescribed oral prednisolone (40 mg/day). After 3 days, macular oedema was completely resolved (Figure 1a, right). After 1 month, his visual acuity improved to 20/25. Follow-up FAG showed neither ischaemic lesions nor macular oedema (Figure 1b, right). The visual field defect was still present; however, it had markedly decreased in size (Figure 1c, right).

Comment

In 1976, Scouras and Koutroumanos¹ were the first to describe AION in Behcet's disease. AION is an infarction of the optic nerve caused by inadequate perfusion through the posterior ciliary arteries. Although the pathogenesis of AION in Behcet's disease has not yet been established, the periarteritis is known to be related to AION.² Our case resembles arteritic AION, because of the vasculitis associated with cilioretinal artery occlusion. It was reported that a third of the patients with optic neuropathy in Behcet's disease lost their sight.³ Unlike the poor prognostic features of optic neuropathy in Behcet's disease, ischaemic optic neuritis was treated well with oral corticosteroids in rare reported cases.^{4,5} Our patient also showed a relatively good corticosteroid treatment response and maintained a good visual acuity during 6 months of follow-up. Although our case cannot explain the overall clinical outcome of AION in Behcet's disease, this rare AION with cilioretinal artery occlusion was effectively treated by early oral corticosteroid treatment.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Scouras J, Koutroumanos J. Ischemic optic neuropathy in Behcet's syndrome. *Ophthalmologica* 1976; **173**: 11–18.
- 2 Er H, Evereklioglu C, Cumurcu T, Türköz Y, Ozerol E, Sahin K *et al*. Serum homocysteine level is increased and correlated with endothelin-1 and nitric oxide in Behcet's disease. *Br J Ophthalmol* 2002; **86**: 653–657.
- 3 Frigui M, Kechaou M, Jemal M, Ben ZZ, Feki J, Bahloul Z. Optic neuropathy in Behcet's disease: a series of 18 patients. *Rev Med Interne* 2009; **30**: 486–491.
- 4 Shima S, Nishimura K, Yamanaka K, Hakamada A, Isoda K, Kurokawa I *et al*. A case of Adamantiades-Behcet disease with ischemic optic neuritis (posterior optic neuropathy). *J Dtsch Dermatol Ges* 2007; **5**: 1010–1014.
- 5 Yamauchi Y, Cruz JM, Kaplan HJ, Goto H, Sakai J, Usui M. Suspected simultaneous bilateral AION in a patient with Behcet's disease. *Ocul Immunol Inflamm* 2005; **13**: 317–325.

S Kim, S Kang and YJ Roh

Department of Ophthalmology and Visual Science,
College of Medicine, The Catholic University of
Korea, Seoul, Korea
E-mail: youngjungroh@hanmail.net

Eye (2011) **25**, 395–396; doi:10.1038/eye.2010.208;
published online 7 January 2011

Sir, Using data from the Cataract National Dataset electronic multicentre audit to calculate risk of posterior capsule rupture and vitreous loss for patients on current surgical lists

The Cataract National Dataset audit of Narendran *et al*¹ devised a simple method for calculating a composite bespoke risk for posterior capsule rupture (PCR) or vitreous loss (VL) or both, tailored to an individual cataract operation. The authors suggested that other surgeons could use their method for calculating the probability of this 'index complication'.^{2,3}

We hypothesised that patients on our weekly cataract list for patients with co-existing retinal disorders, such as diabetic retinopathy, uveitis, retinitis pigmentosa, and high myopia at a tertiary referral centre would have a higher risk of PCR or VL or both than the average operation in the national audit.¹ The national audit data represents current best practice.⁴ Using logistic regression analysis on over 55 000 patients, they calculated the odds ratios of PCR or VL or both for each risk factor.¹ Using these odds ratios, we were able to calculate, for each of our patients, the predicted probability of a complication from the cumulative odds ratios for each patient's individual risk factors. We did this prospectively for 100 consecutive patients on our lists and also recorded whether a complication occurred or not. Thus, we were able to compare the rate of complication on our case-mix of patients against the predicted rate of complication for our patients based on national best practice.

Using the methods outlined above, we calculated the overall predicted 'PCR or VL or both' complication rate for our patients to be 5%, significantly higher than the overall complication rate of 1.92% in the national audit. The actual complication rate for our patients was 1% (ie, one patient in their eighties with diabetic retinopathy, primary angle closure glaucoma, brunescant cataract, a medium-sized pupil, and operated on by a Fellow).

We agree with the authors of the national audit that their data can be used to assess complication rates in cataract surgery taking into account complexity of case-mix. Overall predicted complication rate can be used to demonstrate higher-risk caseload on a particular operating list to ensure assignment of appropriately experienced surgeons. Actual *vs* predicted complication rate can indicate good clinical practice and appropriate experience of trainees.

Conflict of interest

The authors declare no conflict of interest.

References

- 1 Narendran N, Jaycock P, Johnston RL, Taylor H, Adams M, Tole DM *et al*. The Cataract National Dataset electronic multicentre audit of 55567 operations: risk stratification for posterior capsule rupture and vitreous loss. *Eye* 2009; **23**: 31–37.
- 2 Desai P, Minassian DC, Reidy A. National cataract surgery survey 1997–1998: a report of the results of the clinical outcomes. *Br J Ophthalmol* 1999; **83**: 1336–1340.

- 3 Zaidi FH, Corbett MC, Burton BJ, Bloom PA. Raising the benchmark for the 21st century – the 1000 cataract operations audit and survey: outcomes, consultant-supervised training and sourcing NHS choice. *Br J Ophthalmol* 2006; **91**: 731–736.
- 4 Jaycock P, Johnston RL, Taylor H, Adams M, Tole DM, Galloway P *et al*. The Cataract National Dataset Electronic Multi-centre audit of 55567: updating benchmark standards of care in the UK and internationally. *Eye* 2009; **23**: 38–49.

PKF Addison, R Rajendram, H Bradshaw and PG Hykin

Medical Retina Service, Moorfields Eye Hospital,
London, UK
E-mail: phil.hykin@moorfields.nhs.uk

Eye (2011) **25**, 396–397; doi:10.1038/eye.2011.15

Sir,
Lacrimal sac pigmentation due to mascara

Abnormal or unusual pigmentation always raises the possibility of a melanocytic tumour. Other conditions including melanosis, foreign bodies, systemic and topical medications, and exposure to chemicals are also associated with abnormal pigmentation. We present a case of exogenous nasolacrimal sac pigmentation secondary to mascara use.

Case report

A 69-year-old woman underwent left external dacryocystorhinostomy surgery for nasolacrimal duct obstruction (NLDO). Her preoperative ocular examination was unremarkable, except for NLDO. Intraoperatively, on exposure of the nasolacrimal sac it was noted that there was abnormal pigmentation around the common canalicular entrance to the nasolacrimal sac, and a biopsy sample was sent for histology. On removal of the biopsy sample, there was no evidence of smudging or shedding of the pigment. The procedure was successfully completed. The histology (see Figures 1a and b) showed sections of fibrous tissue devoid of covering epithelium. Within the fibrous tissue was a black pigment, some of which was present within the cytoplasm of macrophages. Within the pigment there was birefringent material. These appearances are in keeping with an exogenous pigment consistent with mascara (no other exogenous pigments were used around the patient's eyes).

Comment

Mascara is a very common pigment used to darken the eyelashes. It has previously been implicated in eyelid pathologies, including blepharitis, madarosis, contact dermatitis, allergic conjunctivitis, and conjunctival pigmentation. It has even been reported to accumulate to form a mascara-laden dacryolith.^{1,2} Pigmentation of the conjunctiva and nasolacrimal sac has been reported to occur from usage of kohl eyeliner, which is a lead-based pigment used in the Middle East, Asia,

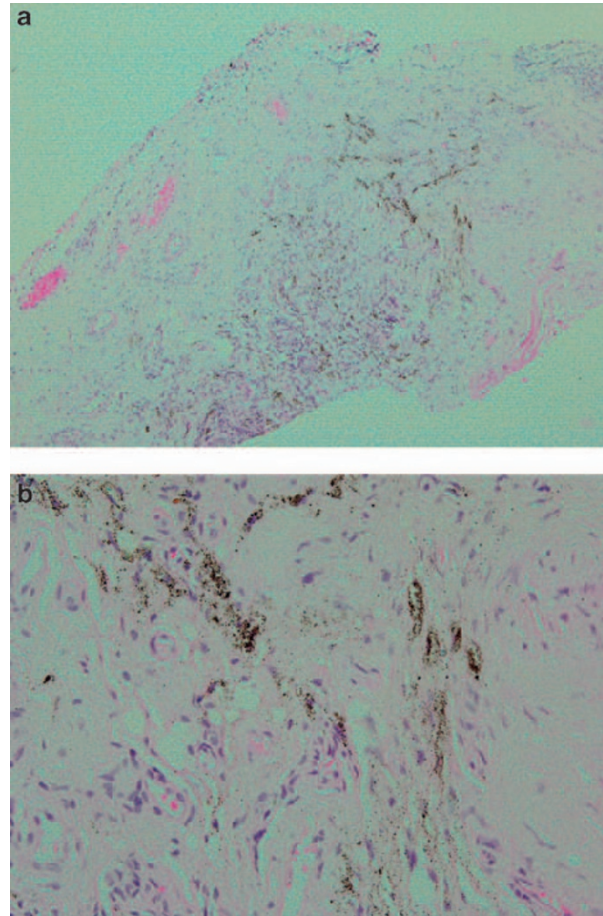


Figure 1 (a, b) Histological photographs demonstrating pigment within the stroma of the lacrimal sac (haematoxylin-eosin stain).

and Africa.³ To our knowledge, this is the first report to describe pigmentation within the substance of the nasolacrimal sac due to mascara deposits passing down the NLD.

The patient used a non-water-resistant mascara, but was unsure of the particular brand. Although the specific ingredients of mascara vary between products, all of them comprise water, wax, film-formers, and preservatives. It is difficult to know whether this phenomenon is specific to the patient's mascara. The patient wore mascara infrequently and wasn't wearing any on the day of surgery, suggesting that this is a chronic process with accumulation of mascara into the stroma over time.

Conjunctival pigmentation due to exogenous material occurs when macrophages ingest pigmented material that then settles within the substantia propria of the epithelium.¹ It may be that this same phagocytic process combined with tear film stasis allowed mascara uptake into the nasolacrimal sac substance.

Conflict of interest

The authors declare no conflict of interest.